Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In The Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Developing a Unified Intercarrier Compensation Regime	)	CC Docket No. 01-92
	)	

REPLY COMMENTS OF CHARTER COMMUNICATIONS, INC.

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Reply Comments of Charter Communications, Inc.

Charter Communications, Inc. ("Charter") respectfully submits these reply comments in response to the Commission's September 8, 2017 Public Notice ("*Notice to Refresh*") in the above-captioned proceedings.[1]

Charter welcomes the Commission's efforts to continue the work it started in the *2011 ICC Transformation Order*[2] and to complete the modernization of its intercarrier compensation regime. As one of the first providers to move to an end-to-end IP solution for delivering voice services to residential and business customers, Charter is intimately familiar with the significant consumer benefits that the IP transition can offer. Use of IP solutions for voice services offers greater functionality and increased call quality to consumers, and enhanced network reliability and lower costs compared to legacy TDM architecture to providers, to the benefit of all involved.

Charter supports the continuation and completion of the Commission's reforms to move the intercarrier compensation system further towards a bill-and-keep model that reduces complexity and distortions, allows for increased competition, and ultimately lowers costs for

[1] *Parties Asked to Refresh the Record on Intercarrier Compensation Reform Related to the Network Edge, Tandem Switching and Transport, and Transit,* Public Notice, DA 17-863, 32 FCC Rcd 6865 (WCB 2017).

[2] *In re Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17,663 (2011).

customers. However, some of the reforms proposed in comments responding to *Notice to Refresh* are solutions in search of a problem, and would be a step backwards rather than advancing the deployment of modern IP networks and addressing competitive barriers that still persist in many local markets for voice service today. Specifically, some ILEC commenters have urged the Commission to adopt rules that would lock in incumbent providers' financial incentives to delay IP interconnection, perhaps indefinitely, by encouraging ILECs to continue using their legacy TDM facilities as a means of generating revenue and imposing costs on competitors. Accordingly, the Commission should take the following steps to eliminate existing artificial market distortions that discourage voice networks from taking full advantage of modern IP technology:

First, the Commission should provide guidance regarding where payment responsibilities for interconnecting carriers begin and end (*i.e.* the network "edge") in an equitable manner that recognizes that the exchange of traffic is mutually beneficial and that neither provider should be unduly advantaged or disadvantaged.

Second, the Commission should clarify the *2011 ICC Transformation Order*'s tandem switching and transport reforms as follows:

(1) tandem switching and transport rates for price cap ILECs were reduced in any instance where the ILEC who operates the tandem is switching to an end office owned by one of its affiliates; and

(2) tandem switching and transport rates were reformed for both access and non-access traffic.

Moreover, the Commission should extend the reforms of the *2011 ICC Transformation Order* to tandem switching and transport rates serving third-party end-office switches, but should

not adopt proposals to reverse the reforms in the *2011 ICC Transformation Order* and allow ILECs to resume charging for tandem switching and transport to their own end offices.

Third, the Commission should address the cost of legacy TDM transit services by clarifying that transit must be provided on just, reasonable, and nondiscriminatory terms. The Commission's silence on the issue has empowered some ILECs to charge anticompetitive rates for these services, inhibiting competition and raising prices for consumers. Proposals to expressly *de*regulate such services, and allow providers to charge whatever they want, would make this problem worse, and should not be adopted.

Fourth and finally, the Commission should resist efforts by some commenters to move 8YY originating charges to bill and keep. The purpose of 8YY service is to permit the called party, typically a business, to assume all of the costs of the call in order to encourage in-bound calls. Requiring the originating provider to bear this cost—thus shifting it back to the calling party—would defeat this purpose.

I. The Commission Should Initiate Reforms to Better Promote the IP Transition.

Traffic exchange policy should continue to be guided first and foremost by the Commission's longstanding objective of encouraging the transition of carrier networks to IP. IP networks offer significant benefits to consumers and carriers alike in terms of increased efficiency, capacity, and service quality.[3] Additionally, as T-Mobile notes, IP offers significant benefits to network security in reducing unwanted robocalling and other fraudulent calls.[4]

Most critically, IP interconnection offers dramatic improvements to network efficiency and cost reduction because it allows for interconnection points to be consolidated, with significant

[3] *See, e.g.*, Comments of T-Mobile at 7-8; Comments of Sprint Corporation at 2.

[4] T-Mobile Comments at 7.

amounts of traffic exchanged over a smaller number of facilities.[5] IP interconnection thus avoids the duplicative and wasteful costs of building out extensive (and obsolete) TDM network facilities to reach countless dispersed ILEC interconnection points. Where Charter has IP interconnection agreements, it has been able to achieve significant cost savings by consolidating traffic exchange at a small number of peering points. By contrast, interconnection with ILECs still requires Charter to incur the avoidable costs of building out its network (or paying vendors, such as dominant ILECs at inflated transit rates) to reach numerous interconnection points—often to exchange modest amounts of traffic that could more efficiently be consolidated and exchanged at fewer interconnection points in IP.

The Commission's reforms in the *2011 ICC Transformation Order* were in substantial part animated by efforts to advance the IP transition so that the efficiencies of IP networks and interconnection could redound to the benefit of all carriers and customers. While competitive providers and IXCs have moved significant amounts of traffic into IP traffic exchange, many ILECs have remained reluctant to adopt what are now time-tested interconnection methods with clear and demonstrated advantages. Indeed, across its national footprint, Charter has been able to reach IP interconnection agreements with certain competitive, interexchange, and wireless providers, but has not yet been able to interconnect in IP with any non-rural ILECs for the exchange of local traffic, and has been able to do so with rural ILECs only in rare instances. T-Mobile's Comments indicate that its experience has been similar.[6] Given ILECs' control over bottleneck tandem and middle-mile transit facilities, the IP transition will remain stalled until they are also willing to participate in moving local traffic exchange towards IP interconnection as well.

[5] *See id.* at 7, 21.

[6] *See id.* at 6 n.12.

The reason for this stalled transition are clear: the revenue streams available to ILECs that continue to insist upon TDM interconnection, and the costs they can thereby impose on competitors, provide ILECs with ongoing competitive and financial incentives to maintain inefficient, legacy infrastructure. Numerous proposals put forth by ILECs in response to the *Notice to Refresh*, as set forth below, are designed to lock in these incentives by further rewarding ILECs that resist IP interconnection and by guaranteeing them continued revenue streams and opportunities to disadvantage competitive providers. In continuing reforms to the intercarrier compensation regime that the Commission began in the *2011 ICC Transformation Order*, the Commission should resist such proposals, and instead eliminate disincentives to moving the voice market towards the IP transition.

To that end, Charter believes there is significant promise to proposals that would encourage a voluntary migration to centralized, efficient interconnection at a small number of traffic exchange points.[7] Proposals that encourage centralized interconnection at a smaller number of consolidated locations, with all providers responsible for their own transit costs to and from the point of interconnection, would naturally encourage adoption of more efficient IP technology. Although Charter does not necessarily take a position on the specific elements of the proposals set forth in opening comments, it believes that such a framework is promising and that Commission should seek further comment on such proposals.

II. Network Edge Definitions Should Be Guided by Equity and Should Reward Efficient Interconnection Arrangements.

As the *Notice to Refresh* observes, the *2011 ICC Transformation Order* did not purport to define a one-size-fits-all solution for defining where payment obligations end and where bill and

[7] *Id.*at 10-12 (proposing shared "safe harbor" interconnection points); *see also* Sprint Comments at 2-4 (proposing interconnection points at existing IP traffic exchange locations already used for Internet and IP Video traffic exchange).

keep begins (*i.e.* the network "edge."). Defining such payment responsibilities has traditionally been a subject of voluntary interconnection negotiations under Section 252(a)(1) of the Act, and of mediation or arbitration by State Commissions under Sections 252(a)(2) and 252(b). Indeed, under the *2011 ICC Transformation Order* itself, and under the 10th Circuit's decision upholding the lawfulness of the Commission's reforms,[8] state commissions retain the authority to decide the points to which interconnecting carriers are responsible for transporting their respective traffic, "pursuant to Commission guidance," when the carriers cannot agree on a location.[9]

At the outset, Charter notes that in its experience in the years since the *2011 ICC Transformation Order*, disagreements regarding network edge issues, or interconnection points, are artifacts of TDM interconnection. Such disputes rarely if ever arise in the context of IP interconnection, where traffic exchange is efficient and relatively inexpensive for both parties. Rather, such disagreements have been driven by the limitations of legacy TDM architecture and efforts by ILECs to leverage those limitations to avoid incurring transport costs themselves, to impose such costs on their competitors, and, where possible, to leverage control over TDM facilities as a revenue source. For instance, Charter has encountered such disputes where ILECS have (1) insisted upon direct TDM interconnection for the exchange of traffic at a location or locations only within their own service areas, thus requiring Charter to transport both terminating *and* originating traffic significantly further than the ILEC does and to mirror the ILEC's TDM network architecture, and/or (2) demanded that *indirectly* interconnecting carriers assume full responsibility for transporting both originating *and* terminating traffic to and from the ILECs' network, requiring Charter to assume significantly higher transport and transit costs than the ILEC

[8] *See In re FCC 11-161*, 753 F.3d 1015, 1128 (10th Cir. 2014).

[9] *2011 ICC Transformation Order*, 26 FCC Rcd at 18,117-18 ¶¶ 1320-1321.

does for the mutual exchange of traffic. Charter has also experienced the strategic use of such demands by rural ILECs as a competitive response when Charter begins offering service in the ILEC's territory. For example, in instances in which Charter and a rural ILEC had previously exchanged traffic indirectly, with each carrier bearing the transit costs of its originated traffic, Charter has been confronted by new demands for the above as soon as Charter begins to offer service within the ILEC's territory.

The *Notice to Refresh* posits various proposals for where the edge should be defined for intercarrier compensation purposes, including "the location of the called party's end office, mobile switching center (MSC), point of presence, media gateway, or trunking media gateway."[10] The *Notice to Refresh* also asks whether it should adopt "a 'competitively neutral' location" for the "network edge," such as "'where interconnecting carriers have competitive alternatives—other than services or facilities provided by the terminating carrier[—]to transport traffic to the terminating carrier's network.'"[11]

It is important to note that the status quo in the market, based upon mutual agreement (or, where necessary, State PUC arbitration) is varied. Throughout its national footprint, Charter has entered into a variety of interconnection agreements that define interconnection points and payment obligations in varying ways, based upon mutual agreement and the respective network designs of the interconnecting parties. Arrangements in which the originating carrier is responsible for carrying traffic all the way to the ILEC's end office, in Charter's experience, are rare. Excluding arbitrage exploits, this framework, in Charter's experience, generally reflects mutual

[10] *Notice to Refresh*, 32 FCC Rcd at 6857 n.10 (quotation marks omitted).

[11] *Id.* at 6857 (citation omitted).

beneficial arrangements, with state Commissions arbitrating disputes when they arise, and there is no reason to disrupt it.

A. Defining the Network Edge as the End Office Would Be Disruptive and Counterproductive.

The 10th Circuit's decision upholding the lawfulness of the *2011 ICC Transformation Order* was predicated at least in part upon the fact that the order did *not* purport to establish one-size-fits-all rules for traffic exchange and transit responsibility, but rather left such decisions to the states in individual cases.[12] The Commission should be cautious about disturbing this status quo, and particularly wary of one-size-fits-all proposals, such as those by several ILECS commenting in the opening round who have urged the FCC to define the network edge as the ILEC end office.[13]

First, the logic of the Tenth Circuit's decision upholding the *2011 ICC Transformation Order* at least raises questions regarding the extent to which the Commission's statutory authority would even permit it to define the end office as the network edge. Opening-round comments that have urged the Commission to set new rules in the area have simply glossed over this issue. The Commission should instead provide guidance for State Commissions to apply, and for voluntary interconnection negotiations to use as benchmark.

Second, traffic exchange agreements today take on a variety of forms. Proposals to define the end office as the edge are out of sync with what has been Charter's experience in the market today. A common arrangement in today's market is for providers who exchange traffic directly to do so either on a settlement-free peering basis if by IP, or, if by TDM, at the tandem of the dominant ILEC, with each provider assuming financial responsibility on their side of the physical

[12] 753 F.3d at 1128.

[13] *See, e.g.*, Comments of CenturyLink at 9; Comments of ITTA at 4-7; *see also* Comments of Peerless Network, Inc., et al. at 9 (defining edge as ILEC end office switch unless the ILEC operates a tandem serving that end office switch, in which case the edge reverts to the tandem); Joint Comments of NTCA and WTA at 20-21 (defining edge, for RLECs, at existing interconnection point in RLEC's service area).

interconnection point. In instances in which the interconnecting providers do not exchange sufficient traffic to make direct interconnection economically practical, they usually each bear the transit costs for their own originated traffic (unless the terminating carrier is a rural carrier, in which case the originating carrier may also bear the costs of transit up to the RLEC's exchange boundary). Any uniform new rules in this area would disrupt settled expectations and the varied agreements arrived at by carriers freely through negotiation under Section 252(a)(1). However, defining end offices as the network edge would be particularly disruptive because of this disconnect, and would represent a pure windfall to those ILECs that currently assume their own transport and transit costs on their side of the interconnection point.

Third, network designs differ. What may be an equitable location for traffic exchange and payment responsibilities in one location may create competitive distortions and add unnecessary costs and complexity in others. Allowing parties through mutual negotiation to arrive at market-based solutions in the first instance, and for State Commissions to make case-by-case adjudications if such market-based negotiations fail, provides the flexibility needed to account for such variation and reach equitable resolutions.

Fourth, due to variation in the design of individual networks, defining specific network elements as comprising the edge would create variations in outcomes based on arbitrary features over which the interconnecting carrier has no control, while simultaneously providing incentives for carriers to locate the chosen elements deeper in their networks in order to inflict additional transit costs on competitors and/or obtain additional revenues. That threatens to undermine the Commission's 2011 intercarrier compensation reforms' efforts to reduce the reliance of carriers on interconnection and intercarrier compensation as a revenue source, remove implicit subsidies, and encourage providers to make decisions about network design, upgrades, and interconnection

in the absence of such distortions, thereby eventually transitioning the market towards IP.[14] Network edge rules that provide opportunities for ILECs to continue to use interconnection as a source of revenue would undermine these reforms and revive the distortions the Commission set out to eliminate over six years ago.

Fifth, proposals to define end offices as the network edge raise numerous practical and technical challenges that have not been fully considered by their proponents. For one, direct interconnection to many ILEC end offices will be infeasible, for both technological and economic reasons. End office switches have limited port capacities, inherently limiting the number of providers who can establish direct interconnection with each ILEC end office, and competitive transit options to reach many ILEC end offices, particularly in rural areas, are often unavailable.[15] Moreover, there are approximately 5,700 ILEC end offices in the country. Even where it might be technically feasible for interconnecting carriers to build out their networks or retain competitive transit vendors to interconnect directly with ILEC end offices, the small amounts of traffic exchanged among many providers (or to each individual end office) would make it economically prohibitive—not to mention incredibly inefficient—for each provider to sink funds into obsolete network technologies by establishing new direct connections to each ILEC end office switch. Rather, as a practical matter, relocating the network edge to the end office would inevitably require interconnecting providers in most instances to interconnect indirectly via ILEC middle-mile facilities, at what are often expensive rates for which there are few or no competitive alternatives, particularly in rural areas. *See also* Part IV *infra*. Rather than creating any new benefits for consumers, therefore, such a rule would simply be a windfall to such ILECs.

[14] *2011 ICC Transformation Order*, 27 FCC Rcd at ¶¶ 736-738.

[15] Other technical complications could also arise, such as the capacity for direct interconnections in such arrangements to handle unexpected increases in traffic volume.

B. Any Guidance the Commission Provides on Defining the Network Edge Should Encourage Equitable, Efficient Arrangements.

To the extent the Commission provides guidance to State Commissions on defining the network edge for intercarrier compensation purposes, it should encourage efficient interconnection arrangements and discourage rules that impede the IP transition. In providing this guidance, the Commission should be guided by two key principles.

First, both interconnecting carriers benefit from the interconnection of their respective networks for traffic exchange, and should both share its costs equitably. Where the carriers cannot reach agreement as to where to hand off responsibility for calls, that point should be chosen in a manner that burdens neither carrier significantly more than the other. By requiring each party to bear the cost of transporting the traffic it originates and terminates over its own network, but none of the cost of transporting it on the other carrier's network, this principle properly aligns payment responsibility with the control of the design, provisioning and cost incurrence of interconnecting two networks. Because providers have historically interconnected through the tandem of the dominant ILEC, this solution has generally proved workable in most cases, with negotiation and (where necessary) mediation and arbitration providing the flexibility to depart from this standard practice where appropriate. The same principles should govern indirect traffic exchange: because such traffic exchange insures to the benefit of both parties, each should be responsible for the transit costs of its own originating traffic.

Second, the Commission should encourage state commissions to decide the appropriate network edge, when disputed, in ways that encourage rather than discourage the IP transition. Where the edge is defined deeper within a directly-interconnecting ILEC's network than the physical interconnection point, the resulting transit revenues from continued TDM interconnection (and opportunity to inflict transit costs on competitors) will operate as an obvious barrier to the

ILEC's willingness to consider more efficient IP interconnection arrangements. Similarly, indirectly connecting carriers who can force imbalanced transit costs on their competitors will face similar competitive incentives to maintain the status quo and will continue to stall the IP transition. *See* Part IV *infra*. Network edge definitions that minimize intercarrier compensation obligations to the greatest extent possible in the context of direct interconnection, and that equalize it to the greatest extent possible for indirect interconnection, will best ensure that all providers share mutual incentives to transition to more efficient, consolidated IP interconnection in the future. The Commission's guidance to State Commissions, and to parties negotiating interconnection pursuant to Section 252(a), should encourage such equitable resolutions wherever possible.

III. The Commission Should Clarify the Scope of Its Existing Tandem Switching and Transport Rate Reforms and Continue the Application of those Reforms to Remaining Charges.

As the *ICC Transformation Order* has taken effect, its reforms to tandem switching and transport rates have eliminated an important distortion from the market, but have continued to drive intercarrier disputes and confusion. The Commission should use this opportunity both to clarify the *2011 ICC Transformation Order* itself and to continue the reforms to those rates that it started.[16] In doing so, the Commission should resist calls by some commenters to unwind its previous reforms,[17] which would perpetuate inefficiencies in the previous regime and further delay the IP transition.

The *2011 ICC Transformation Order* recognized that the practice of assessing tandem switching and transport rates is inherently distortive because it rewards inefficient network structures, offloads inefficiencies in a carrier's own operations onto other carriers, and frustrates

[16] *See, e.g.*, Comments of Voice on the Net Coalition at 1-3 (urging Commission to complete transition to bill-and-keep).

[17] *See* CenturyLink Comments at 5-8; ITTA Comments at 13-16.

the IP transition. The "continuation of transport charges in perpetuity would be problematic," the Commission found, because "if transport rates are allowed to persist, it gives incumbent LECs incentives to retain a TDM network architecture and therefore likely serves as a disincentive for incumbent LECs to establish more efficient interconnection arrangements such as IP."[18] Although the Commission agreed that such charges should eventually be eliminated altogether, it initiated the reform process by reducing tandem switching and transport rates on a gradual schedule in instances "where the terminating carrier owns the tandem,"[19] while deferring and seeking further comment on "the proper transition" for remaining tandem switching and transport rates.[20] As relevant to the present day, the *2011 ICC Transformation Order* required price cap ILECs to reduce tandem switching and transport rates to $0.0007 per minute effective July 1, 2017 and to bill-and-keep effective July 1, 2018.[21] The precise scope of services subject to these reductions, however, has become a subject of disputes requiring clarification by the Commission.

First, price-cap ILECs have taken varying positions as to whether the *2011 ICC Transformation Order*'s rate reduction applies to all tandem switching and transport services performed by an ILEC when it or its affiliates operate the end-office switch, or whether it applies only where the end office switch is operated by an affiliate that is *also* an ILEC. Some price cap ILECs have reduced their tandem switching rates to $0.0007 whenever they or an affiliated entity (including affiliated CLECs or CMRS providers) operate the end office switch; others (citing informal advice from Commission staff) have maintained their pre-*ICC Transformation Order* rates for tandem switching and transport when the affiliated terminating carrier is a CLEC, CMRS

[18] *2011 ICC Transformation Order*, 26 FCC Rcd at 17,943 ¶ 820.

[19] *Id*. at 18,112 ¶ 1306.

[20] *Id*.

[21] *Id*. at 17,934-35 Figure 9.

provider, or VoIP provider instead of an ILEC. Absent consistency among price cap ILECs, CLECs who benchmark their access rates to those of price cap ILECs, such as Charter, have been left without guidance as to which rates they should match.

Charter supports the comments, both in response to the *Notice to Refresh* and in other proceedings, explaining that the existing language in both the *ICC Transformation Order* itself and in in the Commission's implementing regulation at 47 C.F.R. § 51.907(g) makes the rate reduction applicable whenever the terminating carrier is affiliated with the ILEC operating the tandem switch, and that the reduction is not limited to tandem switching and transport functions serving affiliated ILEC end-office switches.[22] Irrespective of whether the Commission's existing order and regulations contain any arguable ambiguity on this issue, however, there is no conceivable policy reason to create a loophole exempting ILEC tandem switching and transport services from the *2011 ICC Transformation Order*'s rate reductions based upon the regulatory classification of the affiliated terminating carrier. The *2011 ICC Transformation Order* reduced terminating access rates for ILECs, CLECs, CMRS providers, and VoIP providers alike. Because terminating access rates (other than for rate-of-return carriers) have been moved to bill-and-keep irrespective of terminating carrier type, there is no reason that tandem switching and transport rates incident to termination should be differentiated by carrier type. The services provided by the tandem switching and transport provider are identical, as are the policy reasons for moving tandem switching and transport rates in the first place. Thus, the Commission should decide (as presently raised in Level 3's complaint against AT&T in EB Docket No. 17-227) that the *ICC Transformation Order* and the implementing regulation at 47 C.F.R. § 51.907(g) already mean

[22] *See* Sprint Comments at 4-5; *see also* Formal Complaint of Level 3 Communications, LLC, EB Docket No. 17-227, ¶¶ 26-31 (Sept. 12, 2017).

what they say: that the rate reductions "for interstate and intrastate terminating traffic traversing a tandem switch that the terminating carrier or its affiliates owns"[23] applies whenever the terminating carrier is an affiliate of the ILEC providing the tandem switching and transport functions. However, at a bare minimum the Commission should promptly implement this rule going forward.

Second, the Commission should further clarify the application of its reduction of tandem switching and transport charges to non-access traffic. Confusion regarding this point has led to inconsistent treatment of such charges by certain price-cap ILECs.

The *2011 ICC Transformation Order* makes clear that "[t]erminating switched end office and reciprocal compensation rates are reduced to bill-and-keep" effective July 1, 2017.[24] The Commission's implementing regulations at 47 C.F.R. § 51.907(g) clearly reflect this instruction with respect to access traffic. Its implementing regulations for reciprocal compensation traffic at 47 C.F.R. § 51.705(c)(5), however, are less explicit, setting reciprocal access rates to bill and keep effective July 1, 2018 but not specifically addressing the July 1, 2017 reduction set forth in the order. This lack of clarity has led to inconsistent interpretations by ILECs of how tandem switching and transport is to be treated when it is an element of non-access reciprocal compensation traffic as opposed to an element of terminating access. For instance, Verizon has issued a notice stating that its reciprocal compensation rate is $0.0007 for tandem switching,[25] whereas AT&T has amended its interconnection agreements to reduce its reciprocal compensation rates to bill and keep. As there is no policy reason to preserve tandem and transport charges in the

[23] 47 C.F.R. § 51.907(g).

[24] *2011 ICC Transformation Order*, 26 FCC Rcd at 17,935 Figure 9.

[25] *See* Verizon Partner Solutions Industry Letter: Reciprocal Compensation Rates in CT, DC, DE, MA, MD, NJ, NY, PA, RI, and VA (June 5, 2017).

reciprocal compensation context any longer than in the terminating access context, the Commission should clarify that any tandem switching and transport elements of non-access reciprocal compensation were lowered to bill-and-keep effective July 1, 2017, consistent with Figure 9 in the *2011 ICC Transformation Order*, and, if needed, amend 47 C.F.R. §51.705(c) to reflect that clarification.

Third, now that the Commission has reformed rates for tandem switching and transport where the tandem switch operator and terminating carrier are either the same entity or affiliated, it should continue the work it started in the *2011 ICC Transformation Order* and address tandem switching and transport services serving third-party end-office switches as well. The *2011 ICC Transformation Order* "agree[d] that such elements must be transitioned to bill-and-keep at the end state, as required by the Order," but left specific implementation for another day.[26] Now that six years have passed and ILECs have had ample notice and opportunity to adjust to the forthcoming reduction of these revenues, Charter supports the further reduction of these charges.

The same policy objectives underlying the *2011 ICC Transformation Order* remain applicable today. ILECs' ownership of most tandem facilities and ubiquitous connections to other carriers continues provide them with opportunities to extract high tandem switching and transport charges, raising prices for consumers and competitors, distorting the marketplace, and providing ILECs with financial incentives to avoid moving to more efficient IP interconnection arrangements. (Indeed, it has been Charter's experience that where competitive alternatives to ILEC tandem facilities are available, they are able to undercut the ILEC's prices, strongly suggesting that those prices remains inflated, particularly where alternatives are unavailable). The

[26] *2011 ICC Transformation Order*, 26 FCC Rcd at 18,113 ¶ 1307.

Commission should move forward with a scheduled reduction of the remaining tandem switching and transport rates as well.

Charter acknowledges that, unlike in the context of switching and transport to affiliated facilities, tandem operators interconnecting calls among third parties, not involving the tandem operator's own end-user customers, are performing a service for which some reasonable compensation may remain appropriate.[27] Moreover, that service is inherently time-limited as the network eventually moves to IP interconnection. For that reason, a complete transition of TDM tandem switching and transport rates to bill and keep may undercut incentives for tandem operators to maintain the pertinent facilities and to provide adequate service levels during the remaining period that such services remain necessary. Conversely, TDM tandem switching and transport services should not be exploited to offload the tandem operators' costs from their own networks onto competitors at anticompetitive rates. Accordingly, the Commission should take steps to cap and reduce tandem switching and transport rates serving non-affiliated end offices towards uniform just and reasonable rates.

Fourth, by no means should the Commission adopt proposals by CenturyLink and ITTA to allow ILECs to *resume* charging for tandem switching and transit to their own or affiliated end offices.[28] Such a move would reintroduce the very problems the Commission set out to address through its reforms in the *2011 ICC Transformation Order*, including the use by ILECs of intercarrier compensation to offload the costs of their own inefficient network designs onto interconnecting carriers. Moreover, it would lock in ILECs' financial incentives to delay the transition to IP interconnection as long as possible by providing yet another opportunity to extract

[27] *See* CenturyLink Comments at 6.

[28] *See* CenturyLink Comments at 6; ITTA Comments at 13-16.

revenues from other carriers by requiring interconnecting providers to continue using TDM interconnection to reach the ILECs' end user customers. The Commission already rejected that position in 2011 and should not revisit that decision now.

IV. The Commission Should Bring Non-Access Transit Charges Within Its Compensation Reform Regime.

Although the *2011 ICC Transformation Order* addressed tandem switching and transport in the context of terminating access and reciprocal compensation, it did not yet initiate reforms to transit services used to transport non-access traffic to third-party carriers.[29] Reforms in this area, however, remain needed—a need that is highlighted by certain ILEC proposals to require interconnecting carriers to transport their traffic all the way to the ILEC's end office, inevitably subjecting it to additional transit costs, often on the ILEC's own network. *See* Part II, *infra*.

By virtue of their ubiquitous networks and their historical role as the carriers to which all other carriers were required to interconnect, ILECs continue to play a central role in enabling indirect TDM interconnection with and among smaller carriers and have institutional advantages (in terms of scale and existing interconnections) that limit the viability of commercial alternatives. Although carriers who exchange significant traffic in a market may find it economical to interconnect directly and competitive options for interconnection to the dominant ILEC tandem are often available, it is rarely practical or cost-effective for every carrier to interconnect directly with *every* other carrier in a given market, particularly where the amounts of traffic exchanged are small. With respect to the amalgamated TDM traffic among and between other carriers who do not exchange significant traffic with one another individually, ILEC facilities continue to occupy a bottleneck role.

[29] *2011 ICC Transformation Order*, 26 FCC Rcd at 18,114 ¶ 1311.

Competitive alternatives to ILEC transit services, moreover, remain uneven and vary by market. Charter welcomes competitive options for transit services that allow carriers to bypass ILEC facilities and connect indirectly with other carriers, and has utilized such services in markets where they are available. However, in Charter's experience, competitive options to ILEC transit services are often limited as to the locations within ILECs' and RLECs' networks that they can reach. Although competitive transit providers can provide an alternative connection to the dominant ILEC tandem in many markets, such services are far less likely to be able to reach ILEC or RLEC *end offices*.

ILECs' continuing importance to enabling interconnection among other carriers provides them with opportunities to exploit this position to their competitive advantage by assessing unreasonable charges on competitors. AT&T, for instance, has taken the position that its tandem transit service is not subject to the Communications Act—and unless a specific state has asserted jurisdiction over transit service and transit rates, AT&T offers transit only on an unregulated "commercial" basis, at prices significantly exceeding its rates for comparable services provided under interconnection agreements.[30] And in most markets in which Charter operates and interconnects with those carriers, CenturyLink's, Frontier's and Windstream's unregulated transit rates are even higher.

[30] In Michigan, for example, where the state commission has not yet addressed the status of transit services under Section 251, AT&T's proffered "commercial" transit rate is over *five times* the transit rate in one of Charter's interconnection agreements with AT&T in a jurisdiction in which transit has been deemed a Section 251 obligation. And in Connecticut, prior to the state commission's intervention requiring AT&T to offer transit services at regulated rates, AT&T was assessing commercially-negotiated transit rates as high as $0.035 per minute of use for CLECs and $0.009 for wireless carriers, significantly higher than its regulated tandem switching charges in the same market—and an order of magnitude higher than the rates ultimately ordered by the Commission. *See Petition of Youghiogheny Commc'ns-Ne, LLC d/b/a Pocket Commc'ns for A Declaratory Ruling that the S. New England Tel. Co. d/b/a AT&T Conn. Is in Violation of Section 16-247b of the Conn. Gen. Statutes & the Dep't's Orders in Docket No. 02-01-23 Relating to Transit Traffic & Fed. & State Laws & Regulations Relating to the Transit Traffic Factor*, 08-12-04, 2009 WL 3332762 (Conn. Dep't Pub. Util. Control Oct. 7, 2009), *aff'd in part, rev'd in part by S. New England Tel. Co. v. Perlermino*, No. 09-cv-1787, 2011 WL 1750224 (D. Conn. May 6, 2011), *aff'd in part, S. New England Tel. Co. v. Comcast Phone of Conn., Inc.*, 718 F.3d 53 (2d Cir 2013).

The persistence of unreasonably high transit rates raises consumer costs, frustrates competitive entry, and distorts the market, and should be addressed as part of the Commission's intercarrier compensation reforms. The Commission can do so by expressly declaring that Section 251(c) requires ILECs to offer transit services to indirectly interconnecting carriers, and to do so at just and reasonable rates. Although the Commission has yet to decide this issue, numerous state commissions and courts have reached this conclusion.[31]

The statutory argument for this holding is straightforward. Section 251(a) gives carriers (other than non-rural ILECs) the right to interconnect with other carriers either "directly or indirectly."[32] The statutory right to interconnect "indirectly" necessarily presupposes the ability to use the facilities of an intermediary carrier. Section 251(c)(2)(A), in turn, requires non-rural ILECs to provide interconnecting carriers with access to its network "for the transmission and routing of telephone exchange service and exchange access,"[33] nowhere limiting such "transmission and routing" to calls exchanged with the ILEC itself. The logical reading harmonizing the provisions, therefore, is that the right to interconnect in Section 251(c)(2)(A) encompasses not only a right to interconnect directly with the ILEC, but also to interconnect with the ILEC for purposes of the "transmission and routing" of calls to other carriers with which the interconnecting carrier interconnects "indirectly" per Section 251(a). Conversely, as the Second Circuit held in affirming the Connecticut Department of Public Utility Control's decision that transit services are encompassed by Section 251(c), if an ILEC were not required by § 251(c)(2) to provide transit service to carriers that are interconnected with its network, the indirect interconnection between two such carriers cannot be used "for the transmission and routing of

[31] *See 2011 ICC Transformation Order*, 26 FCC Rcd at 18,114 ¶1311 n.2367.

[32] 47 U.S.C. § 251(a).

[33] 47 U.S.C. § 251(c)(2)(A).

telephone exchange service and exchange access" between those carriers, and the ILEC "could frustrate the flow of traffic and prevent carriers from indirectly interconnecting, rendering the language in § 251(a), which mandates indirect interconnection, meaningless."[34]

This reading is further reinforced by Section 251(c)(2)(C), which requires non-rural ILECs to offer interconnection "that is at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection."[35] Where an ILEC is itself interconnected with multiple carriers, it necessarily uses its own tandems and transit facilities to exchange its own traffic with those carriers. Section 251(c)(2)(C) thus reinforces that the ILEC in those circumstances must also make the same services and facilities available to carriers who connect indirectly through its facilities.

Because the provision of transit services is one of ILECs' obligations under Section 251(c), they must be offered on rates that are "just, reasonable, and nondiscriminatory."[36] As Charter's experience attests, many ILECs are not complying with that requirement by imposing what are clearly excessive rates for transit services in markets where state commissions have not regulated transit services and competitive alternatives are lacking. As with tandem switching and transport services to non-affiliated end office switches, the Commission should (1) bring such charges within the scope of its existing intercarrier compensation reforms, (2) impose uniform caps to ensure such rates are just, reasonable, and nondiscriminatory.

[34] *S. New England Tel. Co. v. Comcast Phone of Conn., Inc.*, 718 F.3d 53, 63 (2d Cir 2013) (affirming state Commission's regulation of excessive rates charged by AT&T).

[35] 47 U.S.C. § 251(c)(2)(C).

[36] 47 U.S.C. § 251(c)(2)(D).

V. 8YY Charges Should Not Be Reduced to Bill-and-Keep.

Several providers have used the Commission's *Notice to Refresh* as an opportunity to seek changes to originating access charges, in particular for 8YY traffic, to bill and keep,[37] even though the topic is not even raised by the *Notice to Refresh* and is already under separate consideration in another proceeding and in response to different request for comment.[38] The Commission should decline to make such changes.

The logic of the *2011 Intercarrier Compensation Order* was that carriers' costs in terminating traffic should be recovered from their own customers, rather than from originating carriers. Originating carriers incur recurring costs, both through 8YY database dips and through operation of their own networks, to originate 8YY traffic. Unlike terminating access and interconnection traffic, however, 8YY traffic is not reasonably susceptible to recovery from the originating provider's own customers. 8YY traffic, by its nature, is traffic for which the originating caller should not bear the costs of the call because the recipient has undertaken the responsibility of assuming those costs as a service to the calling party. Requiring the originating carrier to recover its origination costs from its own customers, as opposed to recovering them from the IXC for whom the call is destined, would undercut this purpose by shifting the costs of the call from the called party back to the calling party again.[39] Charter supports the recent joint proposal of several industry participants to address 8YY arbitrage through targeted action, rather than making

[37] *See* Comments of AT&T at 26-29.

[38] *See Parties Asked to Refresh the Record Regarding 8YY Access Charge Reform*, Public Notice, 32 FCC Rcd 5117 (WCB 2017).

[39] *See* Letter of NTCA; Frontier Communications; American Cable Association; WTA; Windstream Services LLC; NCTA; and ITTA to Marlene Dortch, CC Docket No. 01-92 & WC Docket No. 16-363 (Nov. 1, 2017) ("[t]ransitioning 8YY to bill-and-keep is in tension with the concept of toll-free calling; although the 8YY subscriber is receiving a benefit from the 'toll free' call, the cost of originating such calls would be shifted to the calling party.").

drastic and unwarranted changes to the existing regime that would deprive originating carriers of cost recovery.[40]

CONCLUSION

For the reasons set forth above, the Commission should take steps to further rationalize the intercarrier compensation regime and to complete reforms it initiated in 2011—and should resist calls to further lock in the misaligned incentives that continue to distort the market for voice services and are delaying the IP transition.

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[40] *See id.*